



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**23.08.2006 Bulletin 2006/34**

(51) Int Cl.:  
**B66F 9/06** <sup>(2006.01)</sup> **E04G 1/18** <sup>(2006.01)</sup>  
**B66F 11/04** <sup>(2006.01)</sup>

(43) Date of publication A2:  
**17.05.2006 Bulletin 2006/20**

(21) Application number: **05077653.3**

(22) Date of filing: **08.09.1997**

(84) Designated Contracting States:  
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC  
NL PT SE**  
Designated Extension States:  
**AL LT LV RO SI**

(62) Document number(s) of the earlier application(s) in  
accordance with Art. 76 EPC:  
**97940901.8 / 1 012 104**

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(54) **Personnel carrying vehicle**

(57) A personnel carrying vehicle comprising a self propelled, steerable body (10), a telescoping mast (30) attached to and extending upwardly from said body, and a personnel compartment (40) attached to the mast and provided with a rail member (42) that extends from the mast and around the sides. A pair of gate members (43,44), which are pivotally attached to the rail member and to the floor of the compartment, are movable from a closed position to an open position wherein said gate members extend into the compartment. The mast ex-

tends upwardly and forwardly of the body at an angle of approximately five degrees to the top of the rail. Control handles are mounted within the personnel compartment, with one handle (70) controlling steering and the other handle controlling traction (80). Sensors (LHS,RHS) ensure the operator's hands are on both control handles and both feet are properly positioned on the floor before the vehicle can be moved or the platform raised.

EPO FORM 1503 03.82 (P04C01) 6



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# EUROPEAN SEARCH REPORT

Application Number  
EP 05 07 7653

| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                         |                                                          |                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------|
| Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Citation of document with indication, where appropriate, of relevant passages                                                           | Relevant to claim                                        | CLASSIFICATION OF THE APPLICATION (IPC) |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | DE 196 15 168 A1 (LINDE AG, 65189 WIESBADEN, DE) 28 May 1997 (1997-05-28)<br>* abstract *                                               | 1                                                        | TECHNICAL FIELDS SEARCHED (IPC)         |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | US 5 069 082 A (SENG ET AL)<br>3 December 1991 (1991-12-03)<br>* the whole document *                                                   | 1                                                        |                                         |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | US 5 203 425 A (WEHMEYER DONALD T)<br>20 April 1993 (1993-04-20)<br>* abstract *                                                        | 19,22,<br>23,26,29                                       |                                         |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | WO 97/15522 A (UPRIGHT INC)<br>1 May 1997 (1997-05-01)<br>* abstract *<br>* page 3, line 34 - page 7, last line *<br>* figures 1-4,10 * | 19,29                                                    |                                         |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | DE 35 43 010 A (JORDAN ELEKTROMOTOREN GMBH) 11 June 1987 (1987-06-11)<br>* the whole document *                                         | 19                                                       |                                         |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | EP 0 244 060 A (UP-RIGHT, INC)<br>4 November 1987 (1987-11-04)<br>* abstract *<br>* figures 1,2 *                                       | 29                                                       |                                         |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | DE 21 39 798 A (METZ GMBH CARL)<br>22 February 1973 (1973-02-22)<br>* page 9 - page 12 *<br>* figures 1-3 *                             | 31                                                       |                                         |
| <del>The present search report has been drawn up for all claims</del>                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                         |                                                          |                                         |
| Place of search<br><b>The Hague</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                         | Date of completion of the search<br><b>12 April 2006</b> | Examiner<br><b>Sheppard, B</b>          |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document<br>T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding document |                                                                                                                                         |                                                          |                                         |

6  
EPO FORM 1503 03.82 (P04C01)



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Application Number  
EP 05 07 7653

### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-34



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-34

A control system for a personnel carrying vehicle, and a vehicle with a control system, where the control system includes steering controls.

A control system for a personnel carrying vehicle including means for lifting and lowering a personnel compartment, and a personnel carrying vehicle comprising a personnel compartment which can be raised and lowered.

1.1. claims: 1-8

A control system for a personnel carrying vehicle, and a vehicle with a control system, where the control system includes steering controls.

1.2. claims: 9-34

A control system for a personnel carrying vehicle including means for lifting and lowering a personnel compartment, and a personnel carrying vehicle comprising a personnel compartment which can be raised and lowered.

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2. claims: 35-37

An apparatus and method to guide a vehicle into an aisle using rollers.

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Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 05 07 7653

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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12-04-2006

| Patent document<br>cited in search report |    | Publication<br>date | Patent family<br>member(s)                                                                      | Publication<br>date                                                              |
|-------------------------------------------|----|---------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| US 3236329                                | A  | 22-02-1966          | NONE                                                                                            |                                                                                  |
| US 2938595                                | A  | 31-05-1960          | NONE                                                                                            |                                                                                  |
| EP 0557685                                | A  | 01-09-1993          | DE 69302499 D1<br>DE 69302499 T2<br>US 5273132 A                                                | 13-06-1996<br>19-09-1996<br>28-12-1993                                           |
| US 3841503                                | A  | 15-10-1974          | NONE                                                                                            |                                                                                  |
| GB 885824                                 | A  | 28-12-1961          | NONE                                                                                            |                                                                                  |
| US 3172500                                | A  | 09-03-1965          | NONE                                                                                            |                                                                                  |
| US 3811336                                | A  | 21-05-1974          | AU 5955273 A<br>CA 996003 A1<br>DE 2343225 A1<br>DE 2343297 A1<br>FR 2334619 A1<br>GB 1441445 A | 27-02-1975<br>31-08-1976<br>14-03-1974<br>07-03-1974<br>08-07-1977<br>30-06-1976 |
| US 3224529                                | A  | 21-12-1965          | NONE                                                                                            |                                                                                  |
| DE 19615168                               | A1 | 28-05-1997          | NONE                                                                                            |                                                                                  |
| US 5069082                                | A  | 03-12-1991          | DE 3925872 A1<br>EP 0411335 A2<br>ES 2052108 T3                                                 | 07-02-1991<br>06-02-1991<br>01-07-1994                                           |
| US 5203425                                | A  | 20-04-1993          | AU 1692992 A<br>WO 9216706 A1                                                                   | 21-10-1992<br>01-10-1992                                                         |
| WO 9715522                                | A  | 01-05-1997          | EP 1007466 A1<br>JP 11513651 T                                                                  | 14-06-2000<br>24-11-1999                                                         |
| DE 3543010                                | A  | 11-06-1987          | NONE                                                                                            |                                                                                  |
| EP 0244060                                | A  | 04-11-1987          | AU 586534 B2<br>AU 6885087 A<br>DE 3778751 D1<br>JP 62276162 A<br>US 4657112 A                  | 13-07-1989<br>29-10-1987<br>11-06-1992<br>01-12-1987<br>14-04-1987               |
| DE 2139798                                | A  | 22-02-1973          | NONE                                                                                            |                                                                                  |

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82